DOCUMENT RESUME

ED 128 255 95 SO 009 354

AUTHOR Rosen, Seymour M.
TITLE Education in the U.S.S.R.: Recent Legislation and Statistics.
INSTITUTION Office of Education (DHEW), Washington, D.C.
REPORT NO DHEW-OE-75-19117
PUB DATE 75
NOTE 56p.
AVAILABLE FROM Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (OE-75-19117, $0.95)

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS *Comparative Education; *Educational Legislation; *Educational Needs; Educational Objectives; *Educational Principles; Educational Problems; *Educational Trends; Elementary Secondary Education; Higher Education; Legislation; Manpower Development; *Statistical Data; Vocational Education
IDENTIFIERS *USSR

ABSTRACT

Recent developments and emerging trends in Soviet education, as reflected in legislation and statistical reports, are reported. First, the structure of Soviet secondary and higher education is outlined. Then, a description is given of the July 1973 Fundamentals, a legislative statement of principles focusing on the Soviet ideal of the education system. Equal educational opportunity, free tuition for all education after kindergarten, and citizen right to enroll in higher education with appropriate prior education are emphasized. Comparative statistics are given for Soviet and U.S. education in terms of specific education levels, nationality groups, and women. Trends in Soviet education include the (1) growth of nursery, kindergarten, and upper-secondary school enrollments; (2) increase in the general education component in vocational schools; (3) large role of secondary schools for technical specialization; and (4) continuing focus in higher education on developing specialists to serve the needs of the national economy. Soviet educational needs include revising the curriculum, improving the teaching quality, and broadening the training of specialists. (AV)

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Education in the U.S.S.R.

Recent Legislation and Statistics

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE/Office of Education

JUL 6 1976

DHEW Publication No. (OE) 75–19117

Education in the U.S.S.R.

Recent Legislation and Statistics

by
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for the U.S.S.R. and Eastern Europe
Office of Education

3

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON: 1975

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 - Price 95 cents

Foreword

This study is one of a series of U.S. Office of Education publications on education in the Union of Soviet Socialist Republics. The major focus is on the present state of Soviet education: recent developments, current concerns, and emerging trends as reflected in recent legislation and statistical reports. The study also includes a helpful summary of the fundamental principles, legislative base, and structure of the Soviet educational system.

The combination of general background information and analysis of recent developments together with supporting statistics and key excerpts from relevant laws and decrees helps provide insight into as well as perspective on Soviet education and the direction in which it is moving in the 1970's. Along with the recent Office of Education publication, *Education in the U.S.S.R.: A Bibliography of English-Language Materials, 1965–1973*, by Nellie Apanasewicz, it can also serve as a valuable research tool providing basic data and citations of further sources of information. This publication should therefore prove useful to a wide audience, from those desiring a brief basic orientation to education in the U.S.S.R. to scholars wishing to explore various aspects of Soviet education in greater depth, particularly those concerned with the study of educational change in the Soviet Union.

The author, Seymour M. Rosen, has been a specialist on Soviet education for the Office of Education since 1960. He has made five study trips to the U.S.S.R. since 1961 and is the author of several reports on education in the Soviet Union. Among his reports recently published by the Office of Education are *Soviet Programs in International Education* (1971), *The Development of People's Friendship University in Moscow* (1973), and "Education for Career Development in the USSR" in *International/Intercultural Education Reports* (1973).

Robert Leestma
Associate Commissioner
for Institutional Development
and International Education

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1. Introduction

This study presents and analyzes recent major education legislation and statistics in the Union of Soviet Socialist Republics (U.S.S.R.). Its purpose is to provide current information and perspective on these key indicators of the state and direction of Soviet education.

This first chapter provides an overview of the framework of the Soviet education system and the terminology used in describing it. The overview is intended particularly for readers unfamiliar with Soviet education, who will need this background knowledge in order to understand the study.[1]

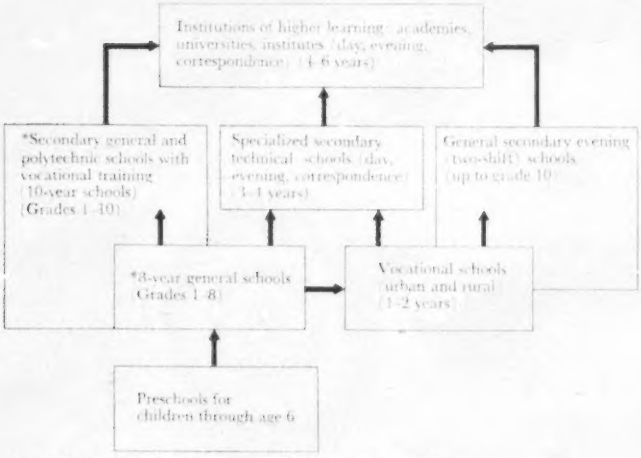
Structure and Administration

Following voluntary attendance at preschool nurseries (for infants through age 2) and kindergartens (for children through age 6), there are 8 years of compulsory education (for children 7 to 15) in Soviet schools. This compulsory education is followed by 2 years of "complete" general secondary education (3 years in the Baltic area) or 1 to 4 years of vocational-technical education. (See chart.) Ten years of compulsory education are planned by 1975. Higher education ranges in duration from 4 to 6 years depending on the field of study. Tuition is free for education at all levels, and most students at technical and higher schools receive some form of stipend.

The U.S.S.R. Ministry of Education in Moscow and the subordinate ministries of education in each of the country's 15 constituent Republics supervise preschool, elementary, and general secondary education. The U.S.S.R. Ministry of Higher and Secondary Specialized Education and its counterparts in the 15 Republics supervise universities and other higher education institutions and specialized secondary technical schools. Many specialized schools are directly administered by a Government ministry concerned with a particular field. For example, medical schools at both the secondary and higher level are administered by the Ministry of Health, following curricu-

[1] For more detailed recent surveys of the Soviet education system as a whole, see the author's *Education and Modernization in the U.S.S.R.* (Reading, Mass.: Addison-Wesley, 1971) and David W. Carey's "Developments in Soviet Education," in *Soviet Economic Prospects for the Seventies* (Washington, D.C.: Joint Committee Print, A Compendium of Papers Submitted to the Joint Economic Committee, Congress of the United States, U.S. Government Printing Office, 1973, pp. 594–636).

Structure of the Soviet Educational System: 1974


Institutions of higher learning—academies, universities, institutes (day, evening, correspondence) (4–6 years)
*Secondary general and polytechnic schools with vocational training (10-year schools) (Grades 1–10)
Specialized secondary technical schools (day, evening, correspondence) (3–4 years)
General secondary evening (two-shift) schools (up to grade 10)
*8-year general schools (Grades 1–8)
Vocational schools (urban and rural) (1–2 years)
Preschools for children through age 6

*Grades 1–8 of either the 8-year school or the 10-year school are compulsory.

lums approved by the U.S.S.R. Ministry of Higher and Secondary Specialized Education.

The U.S.S.R. Ministry of Education and the U.S.S.R. Ministry of Higher and Secondary Specialized Education are coordinated and controlled in general policy and through specific guidelines, along with other Government ministries, by the Communist Party leadership organs and the U.S.S.R. Council of Ministers, of which both ministries are a part.

A primary function of the Ministry of Higher and Secondary Specialized Education is to meet the Central Government's determinations for trained manpower, whereas the primary function of the Ministry of Education is to provide a basic general education for the Nation's youth.

Primary-Secondary Education

Compulsory education begins in the first grade at age 7. Primary education extends from grades 1 to 3, and "incomplete secondary" education from grades 4 to 8. Since 1959 a student progressing through "incomplete secondary" education has been a graduate of an 8-year school (grades 1–8). Before 1959, he or she was a graduate of a 7-year school. The upper or "complete secondary" grades are generally 9 and 10; thus a student who has progressed through "complete secondary" education is a graduate of a 10-year school (grades 1–10).

The term "secondary general and polytechnical schools with vocational training" refers to the regular 10-year elementary-secondary

schools of general education attended by most students. "Polytechnical education," involving knowledge of the world of work, is built into the general education school curriculum from the earliest grades; it includes study of the relationship of the physical sciences to their practical application in industry and also some elementary practical training in specific fields.

Specific vocational training, as distinct from polytechnical education, is given after a student leaves the 8-year school either in 1- to 2-year vocational schools or in 3- to 4-year "specialized secondary technical schools." Examples of the latter are the (lower) medical schools, which produce "feldshers," or doctor's assistants, and the technicums, which train engineering support personnel. These 3- to 4-year specialized secondary schools also include general education in their curriculum and provide access to higher education, though to a more limited extent in practice than the 10-year schools of general education. General secondary schools grant a maturity certificate; technical schools grant a diploma.

Higher Education

Only a small percentage of the students in higher education are enrolled in the Soviet Union's 63 universities. The great majority are in the more than 700 specialized institutes that produce engineers, teachers, doctors, and various other professionals. Length of study for a diploma is 4 years (generally) for teachers, 5 years for engineers, and 6 years for medical doctors. All professional training follows 10 or 11 years of elementary-secondary education; there is no equivalent to the U.S. bachelor of arts studies prior to professional training in such fields as law and medicine.

A prime objective of Soviet higher education is to make each student a trained, as well as an appropriately indoctrinated, specialist in a given field. A quota system, operated in accordance with the state's plans for trained manpower, admits students to a coded, numbered specialty in higher education that corresponds to the same numbered specialty in industry, or in medical, legal, or other fields.

Almost half of all higher education students are enrolled in evening or correspondence programs while working full-time. About a third of all students are in correspondence-extension programs, which are considered an alternative road to a higher education diploma for those unable to enter full-time day programs. Correspondence program specialties are generally related to full-time fields of work, and workers get paid time off from the job to take exams.

Graduate study is called the *aspirantura;* it is generally for 3 years and leads to the ***kandidat nauk*** or candidate of sciences degree.

2. Legislation: The *Fundamentals*

The basic education law in the U.S.S.R. from 1958 to 1973 was the law "on Strengthening the Connection of School with Life and on Further Development of the System of Public Education in the U.S.S.R." *(Ob ukreplenii sviazi shkoly s zhizn'iu o o dal'neishem razvitii sistemy narodnogo obrazovaniia v SSSR)*. Enacted December 24, 1958, and sometimes referred to as the Khrushchev education reform law because of the prominent role played by the former Soviet premier in its establishment, this law has been subject to de facto piece-meal revisions since the 1960's.

Legislation of July 19, 1973, passed at a session of the U.S.S.R. Supreme Soviet (the national legislature), announced displacement of the 1958 law by a new basic education law, effective January 1, 1974. The new Soviet law is entitled "Fundamentals of Legislation of the U.S.S.R. and Union Republics on Public Education" *(Osnovy zakonodatel'stva Soiuza SSSR i soiuznykh respublik o narodnom obrazovanii)*. It will be referred to henceforth simply as the *Fundamentals (Osnovy)*.[1]

The *Fundamentals* of 1973, then, is the first new overall law on education in the U.S.S.R. since 1958. It consolidates reform revisions in education, particularly of the preceding 10 years, and elaborates general principles for present and future laws and regulations concerning every level and every major type of education. As such, the *Fundamentals* should remain the cornerstone of Soviet education legislation for the foreseeable future.

The World Council of Comparative Education Societies provides a succinct rationale of the importance of the *Fundamentals* and several other recent legislative documents and regulations relating to education in the U.S.S.R.:

> To assess, or even merely understand, a national education system and its development, it is essential to be aware of the basic documents which define the underlying governmental policies and the resulting legislation. . . .[2]

Background Laws and Decrees

The law of December 1958 and corresponding laws issued by each of the 15 Union Republics of the U.S.S.R. the following spring have been summarized by the author in an earlier study *(Higher Education in the U.S.S.R.*, U.S Government Printing Office, Washington, D.C. 1963):

> The laws called for revision of the curriculum in schools of general education to include substantial "polytechnical" education; that is, to teach the fundamentals

[1] *Osnovy* can also be translated as "Principles," "Bases," or "Foundations."

[2] *World Council of Comparative Education Societies: Newsletter*, vol. II, no. 1. March 1974. p. 65. In association with the International Bureau of Education, Palais Wilson, Geneva, Switzerland. This article is the first in a series citing basic educational documents of various countries.

of industrial and agricultural production, increase practical training courses in schools, and provide further training in factories and on farms. "Schools of general education," the 7-year incomplete secondary (grades 1–7) and the 10-year complete secondary (grades 1–10) were to be transformed respectively into 8-year and 11-year "general education labor-polytechnical schools with production training." Universal, compulsory education would extend through grade 8. Complete secondary education, grades 9–11, would be obtained in either the new 11-year general education-polytechnical schools, evening schools of general education for working and rural youth, or in secondary specialized schools or *tekhnikums*, all of these providing access to higher education.

The laws provided, however, that up to 80 percent of students completing secondary education would be expected to work for 2 years or more, prior to entering institutions of higher education (VUZy).

The 1958 education law raised universal compulsory education in the U.S.S.R. from 7 to 8 years. As early as 1961, however, an even longer period of compulsory education was set as a goal, although not as an immediate objective. *The Program of the Communist Party of the Soviet Union* (C.P.S.U.), adopted by the 22d Congress of the C.P.S.U. in October 1961, stated:

> The main tasks in the fields of instruction and education are: (a) Introduction of Universal Compulsory Secondary Education. In the next decade compulsory secondary general and polytechnical eleven-year education is to be introduced for all children of school age. . . .[3]

The 1961 program retained the concept in the 1958 law of 11 years (with grades 9-11 not compulsory) as representing a complete elementary-secondary education. In August 1964, however, a joint decree of the C.P.S.U. Central Committee and U.S.S.R. Council of Ministers reduced the length of complete schooling from 11 to 10 years (the same total as prior to 1958).

The August 1964 decree represented a substantial retreat from the 1958 law, which initiated addition of substantial practical training in schools and factories to regular academic studies, particularly in the upper secondary grades. A joint decree earlier that same year (June 1964) outlined modifications of the 1958 reform of higher and secondary specialized schools.[4]

Prior to 1966, there were ministries of education in each of the 15 constituent Union-Republics but none at the national level. Legislation in August 1966 established the U.S.S.R. (national) Ministry of Education to control and coordinate more effectively the work of the Republic ministries. Simultaneously a national education research organization was established out of the Russian S.F.S.R. Academy of Pedagogical Sciences, which became the U.S.S.R. Academy of Pedagogical Sciences.

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[3] *Programme of the Communist Party of the Soviet Union.* Moscow: Foreign Languages Publishing House, 1961.

[4] For details on the 1958 reform failures and the 1964 revisions, see the author's *Significant Aspects of Soviet Education* (OE-14112). Washington, D.C.: U.S. Government Printing Office, 1961.

In April 1971, the 24th C.P.S.U. Congress issued the "Directives for the Five-Year National Economy for 1971–1975," specifically instructing the national education sector as follows:

> To carry out the further comprehensive development of public education and socialist culture. To improve the instructional and upbringing process. To improve the quality of the training of pedagogical cadres and raise the level of their qualifications. To step up work on the vocational guidance of pupils, taking into account the young people's inclinations and the national economy's requirements for skilled cadres.
>
> * * *
>
> To develop higher and specialized secondary education in accordance with the requirements of scientific and technical progress, to raise the quality of the training of future specialists and to improve their ideological and political upbringing. During the five-year period, to train approximately 9,000,000 specialists with a higher or specialized secondary education, paying special attention to the training of specialists in new fields of science and technology, for the rapidly developing branches of production and for the sphere of services.
>
> * * *
>
> To increase the training of skilled workers in the vocational technical educational institutions, especially in rural localities, so that young people, as a rule, will obtain a specialty before beginning a job. During the five-year period, to train at least 9,000,000 skilled workers for all branches of the national economy in the vocational-technical educational institutions. To carry out at higher rates the training of cadres for agriculture, construction, light industry, the food industry and enterprises providing everyday services to the population. By 1975, to bring the number of students enrolled in vocational-technical training who at the same time receive a complete academic secondary education to 300,000 to 400,000.[5]

These Communist Party directives are repeatedly invoked by Soviet education authorities in measuring progress and deficiencies in their sectors of Soviet education.

Two joint decrees of the C.P.S.U. Central Committee and the U.S.S.R. Council of Ministers in June 1972[6] affirmed that the goal of universal secondary education was to be accomplished by 1975 and reinforced the 1971 directives in calling for preparation of students in both the academic and vocational education systems who would be both academically and technologically knowledgeable. A joint decree the following month[7] called for modernizing and improving the quality of the curriculum and teaching methods of all specialties at the higher education level.

It should be noted that Communist Party decrees and directives not only guide the formulation of laws and Government ministry policies and actions, but are themselves considered equivalent to legal documents. In the U.S.S.R. Ministry of Education publication, *Pub-*

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[5] *Stenographic Report, 24th Congress of the Communist Party of the Soviet Union (Part V)*. Joint Publications Research Service, U.S. Department of Commerce, Arlington, Va., December 1971, p. 89. Published in *Pravda* and *Izvestia*, Apr. 10, 1971. (For comment on the goal of 9 million specialists in specialized secondary or higher education, see chapter 3.)

[6] *Pravda*, June 25 and June 29, 1972.

[7] Ibid., July 30, 1972.

lic Education in the U.S.S.R., 1971–1973 (Moscow, 1973, p. 41), for example, the 1971 Party directives and the 1972 joint decrees are cited along with laws of the U.S.S.R. Supreme Soviet as "The Main Official Acts Passed in 1970–1972."

The *Fundamentals* law of July 1973 integrates and outlines the following principles and goals espoused in the previous "main official acts":

1. The polytechnical education principles (relating education to the world of work)—stated in *the 1958 reform law.*
2. The goal of compulsory secondary education—initiated by *the 1961 Party program.*
3. The revision of programs of studies—proposed in *the 1964 joint decrees.*
4. The elaboration of education control mechanisms at the national level as distinct from the Union-Republic level—initiated by *the 1966 law establishing a national education ministry.*
5. The focus on quality as well as quantity of future trained specialists—called for in *the 1971 Party directives* and *the July 1972 higher education decree.*
6. The upgrading of vocational as well as general education to provide the comprehensive, well-rounded education and training called for in *the joint decrees of June 1972*

The *Draft Fundamentals* of April 1973

Prior to passage of the *Fundamentals* in July 1973, *Draft Fundamentals (Proekt Osnov zakonodatel'stva Soiuza SSR i soiuznykh respublik o narodnom obrazovanii)* were submitted to the Presidium of the U.S.S.R. Supreme Soviet by the U.S.S.R. Council of Ministers (April 1973). The *Draft Fundamentals* were then published in national and Republic newspapers "for public discussion" prior to passage of the law.

This staging was somewhat similar to that which preceded the December 1958 education law. In November 1958 a joint statement called "Theses" of the C.P.S.U. Central Committee and the U.S.S.R. Council of Ministers had been issued, spelling out details of the education reform. The "Theses" had then been opened to public discussion.

In 1973, as in 1958, organized and individual public discussion took place. According to the Soviet press, the discussion endorsed the leadership's draft documents and offered some suggestions on details. The 1973 discussion seemed somewhat more substantive and less eulogistic than that of 1958.

The *Draft Fundamentals* consisted of 15 sections and 58 articles, as compared with the 14 sections and 64 articles of the subsequent *Fundamentals* law. Changes appeared to be as much from rearrangement of materials as from minor modifications and additions. The *Fundamentals*, for example, provides a lengthier introduction, by

shifting Article 1 of the *Draft Fundamentals* into the introduction almost verbatim with the addition of one sentence. Article 1 of the *Draft Fundamentals* reads as follows:

> The goal of public education in the U.S.S.R. is the preparation of highly educated, well-rounded physically healthy and active builders of communist society brought up on the ideas of Marxism-Leninism and in the spirit of respect for Soviet laws and socialist law and order, capable of working successfully in various areas of economic-social cultural construction, actively participating in social and state activity, and ready to defend selflessly the socialist homeland and to preserve and to increase its material and spiritual wealth and protect and preserve nature.[8]

With slight rewording, the relevant paragraph of the introduction of the *Fundamentals* law reads the same with the addition of the sentence, "Public education in the U.S.S.R. is called upon to guarantee the development and satisfaction of the spiritual and intellectual needs of Soviet man."

Comment on the *Fundamentals*

Focus

The *Fundamentals* of July 1973 is an extensive statement and outline of principles, focusing on the Soviet ideal of its education system, rather than a bill of particulars of practical realities. Thus, the law's sections elaborate on equal educational opportunity, free tuition for all types of education (excluding nursery school and kindergarten), and the right to enroll in higher education for all citizens with appropriate prior education. The law does not mention the realities of an inadequate number of kindergartens, double-shifts in elementary-secondary education, and admissions quotas in higher education.

The traditional Soviet pedagogical goals are presented—to inculcate in students a Marxist-Leninist world view, to advocate the scientific and secular, and to promote a communist attitude toward work and social property. Not presented are the corollary Soviet educational realities—the fostering of antireligious attitudes (not merely the opposition to extending religious influence), hostility toward capitalism and some aspects of Western culture (expressed in programs and textbooks), and the molding of students to an ideological vision that restricts exploration of alternative approaches and attitudes.

Regulations Cited

The law cites specific education regulations for schools to follow in carrying out its principles:

1. For elementary-secondary schools: the Statute of the Secondary General Education School *(Ustav srednei obshcheobrazovatel'noi shkoly)*, cited in article 18.
2. For secondary technical schools: the Regulation on Secondary Specialized Educational Institutions of the U.S.S.R. *(Polozhenie o srednikh spetsial'nykh uchebnykh zavedeniiakh SSSR)*, cited in article 35.

[8] *Uchite'skaia gazeta*, Apr. 5, 1973.

3. For higher education: the Regulation on Higher Education Institutions of the U.S.S.R. *(Polozhenie o vyshikh uchebnykh zavedeniicakh SSSR)*, cited in article 40, and the Regulation on Practical Training (*Polozhenie o praktike*), cited in article 43.

While the Regulation on Practical Training was issued by the specific ministry concerned, namely the U.S.S.R. Ministry of Higher and Secondary Specialized Education, all the other regulations were issued (or "confirmed" to use Soviet terminology) by the U.S.S.R. Council of Ministers.

Dates of issuance of the cited regulations are not given in the *Fundamentals*. The Statute of the Secondary General Education School presumably is the one confirmed September 8, 1970, which elaborates general school regulations and principles, rights and duties of pupils and teachers, and principles of school administration and financing.[9]

The Regulation on Higher Educational Institutions of the U.S.S.R. presumably is the one confirmed January 22, 1969, which is concerned with general regulations and procedures in higher schools, rights and duties of students and teaching staff, administration, research and funding.[10]

Administrative Responsibilities

Although the *Fundamentals* distinguishes between the competence or jurisdiction in the field of education of the U.S.S.R. (national authority) and that of the 15 subordinate Union Republics (articles 6 and 7, not excerpted), it does not specify the particular jurisdictions of the U.S.S.R. and the respective Republic ministries of education and ministries of higher and specialized secondary education. Prior knowledge and a close reading is required to establish the particular bailiwicks, under general Communist Party control, of the three main authorities concerned with administering Soviet education. They are as follows:

1. *U.S.S.R. Ministry of Education:* Preschool education, general elementary secondary education, and education research.
2. *Committee on Vocational Technical Training of the U.S.S.R. Council of Ministers:* Vocational training.
3. *U.S.S.R. Ministry of Higher and Secondary Specialized Education:* Secondary technical training and higher education.

Reflection of Newer Developments

Some of the newer developments in Soviet education are reflected in various provisions of the *Fundamentals*. Inclusion of the clause

[9] The Statute has been translated by the *Current Digest* of the *Soviet Press*, vol. XXII, no. 38, 1970, pp. 1–6, and by *Soviet Education*, vol XIII, no. 3–4, January-February 1971, pp. 102–18. *Soviet Education*, in the same issue, presents a number of comments on the Statute (which it translates as "Regulations") by Soviet education officials and the Soviet press.

[10] The Regulation is translated in *Soviet Education*, vol. XII, no. 9–10–11, July–August–September 1970, pp. 227–53.

"to protect and preserve nature" among the goals of public education (in the introductory section of the *Fundamentals*) reflects growing acknowledgment in the U.S.S.R. as well as globally of the increasing importance of ecological concerns to society.

Article 3, while pointing out that the duration of compulsory education remains 8 years for the present, indicates that universal (10-year) secondary education is being implemented.

Article 22 specifies that preparatory classes may be opened in the schools as necessary and as approved by the U.S.S.R. Government for children who have not attended preschool institutions and therefore may be initially disadvantaged. F. Panachin, the U.S.S.R. First Deputy Minister of Education, reported in April 1973:

> Now approximately 10,000 such classes are preparing children for school and functioning in the union and autonomous republics. Their work is having an exceptionally beneficial effect upon teaching children the Russian language in the first and following classes.[11]

Article 31, in citing as a main task of vocational-technical schools "the implementation of vocational and general secondary education," alludes to the growing trend to provide a full secondary general education in vocational schools in the U.S.S.R., in conjunction with the drive toward universal complete secondary education.

Article 52, on inservice training of teachers, reflects (somewhat obscurely) plans for upgrading qualifications of supervisory staff of general education schools not only in the customary "institutes for raising qualifications" but also in special departments connected with pedagogical institutes (teachers colleges).

Thus, the *Fundamentals* are to some extent an indicator of the current concerns and recent developments in Soviet education as well as a synopsis of the overall principles and regulations of the system. At the same time, they provide a bird's-eye view of the structure of the education system, outlining the variety of types of in-school and out-of-school education and training institutions in the U.S.S.R.

Sources of Legislation and Regulations

The *Fundamentals* have been published in full in several Soviet sources. Besides immediate (July 20–21 1973) publication in *Izvestia, Pravda,* and *Uchitel'skaia gazeta* (Teacher's Newspaper), an organ of the U.S.S.R. Ministry of Education and the Central Committee of the Education Workers' Trade Union, the law has also appeared in *Narodnoe obrazovanie* (Public Education), Number 10,

[11] *Sel'skaia zhizn'* (Rural Life), Apr. 24, 1973, appearing in *Translations on U.S.S.R Political and Sociological Affairs,* no. 390, June 1, 1973, p. 7 (*U.S. Joint Publications Research Service*).

1973, the monthly journal of the U.S.S.R. and R.S.F.S.R. Ministries of Education, and in a separate pamphlet of materials on the U.S.S.R. Supreme Soviet session of July 17 to 19, 1973, issued by Political Literature Publishers in Moscow in 1973. The pamphlet, which includes statements related to the legislation by top education officials as well as the *Fundamentals*, is entitled *O sostoianii i merakh o dal'neishemu sovershenstvovaniiu narodnogo obrazovaniia v SSSR* (On Conditions and Measures for Further Improvement of Public Education in the U.S.S.R.).

English translations of the full text of the *Draft Fundamentals* have appeared in *Translations on U.S.S.R. Political and Sociological Affairs* (no. 375, May 10, 1973), published by the U.S. Joint Publications Research Service of the U.S. Department of Commerce, and *The Current Digest of the Soviet Press* (C.D.S.P.) (volume XXV, no. 14, May 2, 1973, pp. 4–14), published by the American Association for the Advancement of Slavic Studies. C.D.S.P. (which translates *Osnovy* as "Principles") also has published the full text of the *Fundamentals*, "Text of the Public Education Principles" (volume XXV, no. 31, Aug. 29, 1973, pages 10–17). The translated text of the law at the same time notes changes in and additions to the *Draft Fundamentals*.

The basic source for national education legislation in general, as well as legislation in other fields, is *Vedomosti Verkhovnogo Soveta SSSR* (Gazette of the U.S.S.R. Supreme Soviet), a semimonthly journal of laws of the national legislature. The last issue of each year contains a subject index for the full year. Major laws are published also in the national Government and Communist party newspapers, *Izvestia* and *Pravda*.

Government decrees or regulations in secondary specialized education and higher education are published monthly in *Biulleten' Ministerstva vysshego i srednego spetsial'nogo obrazovaniia SSSR* (Bulletin of the U.S.S.R. Ministry of Higher and Secondary Specialized Education).

Compilations of education laws and decrees are published occasionally in Moscow as separate volumes. These include:

1. *Vysshaia shkola; osnovnye postanovleniia, prikazy i instruktsii* (The Higher School; Basic Resolutions, Decrees and Instructions), edited by L. I. Karpov and V. A. Sevetsev (Soviet Science Publishers, 1957, 655 pp.). This volume, covering the period from the early 1940's to the mid-1950's, was translated into English in four parts by the U.S. Joint Publications Research Service as *The Higher School System of the U.S.S.R., Main Decrees, Orders, and Instructions* in September–October 1959.
2. *Ob ukreplenii sviazi shkoly s zhizn'iu i o dal'neishem razvitii sistemy narodnogo obrazovaniia SSSR* (On Strengthening the Ties of School with Life and on Further Development of the System of Public Education in the U.S.S.R.), compiled by M. A. Ivanov and others and edited by F. I. Kalinychev (State Publishers of Juridical Literature, 1961, 343 pp.). This volume covers important

legislation of the U.S.S.R. and the Union Republics primarily of the 1958–1959 period, with additional material to 1961.

3. *O kommunisticheskom vospitanii i ukreplenii sviazi shkoly zhizn'iu* (On Communist Upbringing and Strengthening the Ties of School with Life), compiled by M. M. Deineko ("Enlightenment" Publishers, 1964, 480 pp.). This volume covers basic education legislation and resolutions and decrees of the U.S.S.R. Council of Ministers and the C.P.S.U. Central Committee from 1956 to 1963.

In addition, two compilations of Soviet regulations on higher education have been published in recent years by Western sources. One covers the period from 1961 to 1968 and was produced in 1969 in mimeograph form in Germany by the Institut für Recht, Politik und Gesellschaft der Sozialistischen Staaten (Institute for Law, Politics and Society of the Socialist States) in Kiel, West Germany. It is entitled *Hochschule und Student in der Sowjetunion* (The Higher School and Student in the Soviet Union) and was compiled by Professor Dr. Dietrich A. Loeber (156 pp.).

The other, edited by Fred Ablin, is available in English and entitled *Decision-Making in Soviet Higher Education (A Documentary History)*, as a special issue of the translation journal *Soviet Education* (International Arts and Sciences Press, July–August–September 1970, 283 pp.). It selectively covers higher education regulations from the early 1920's through 1969. The monthly journal *Soviet Education* occasionally includes legislation or decrees along with articles on the aspect of Soviet education that is the particular topic in a given issue. Other occasional sources of current translations of education laws and regulations in English are the previously cited publications of the U.S. Joint Publications Research Services and *The Current Digest of the Soviet Press*.

Excerpts from the *Fundamentals* [12]

Section I. GENERAL REGULATIONS

Article 2. Legislation of the U.S.S.R. and Union Republics on Public Education

Legislation of the U.S.S.R. and union republics on public education consists of the present Fundamentals and other acts of legislation of the U.S.S.R. and union republics issued in accordance with them.

[12] The full title is *Fundamentals of Legislation of the U.S.S.R. and Union Republics on Pubkc Education*. The translation of these excerpts is based on a translation of the *Draft Fundamentals* published by the U.S. Joint Publications Research Service in *Translations on U.S.S.R. Political and Sociological Affairs* (No. 375, May 10, 1973), adapted and reworked by the author from the full text of the *Fundamentals* law published in *Uchitel'skaia gazeta*, July 21, 1973.

Article 3. The Right of Citizens of the U.S.S.R. to Education

In accordance with the Constitution of the U.S.S.R., the citizens of the U.S.S.R. have the right to education. This right is guaranteed by compulsory general eight-year education; implementation of universal general secondary education for young people; wide-scale development of vocational-technical, secondary specialized and higher education on the basis of the connection of study with life, with practical communist construction; instruction in schools in the native language; broadening the network of preschool and out-of-school institutions; free tuition for all types of education; a system of state stipends and other forms of material aid of pupils and students; organization of various forms of production training; and raising the qualifications of workers. . . .

Article 4. The Basic Principles of Public Education in the U.S.S.R.

The basic principles of public education in the U.S.S.R. are:

1. Equality of all citizens of the U.S.S.R. to receive education, regardless of race and national affiliation, sex, attitude toward religion, property and social status;
2. Compulsory education for all children and adolescents;
3. State and social [public] character of all instructional-upbringing [educational] institutions;
4. Freedom to choose the language of instruction. Instruction in the native language or the language of another people of the U.S.S.R.;
5. Free tuition of all types of education, maintenance of a portion of the students fully by the state, stipends for pupils and students, and rendering them other material assistance;
6. A unified system of public education and continuity of all types of education institutions, assuring the opportunity of transfer from lower to higher levels of instruction;
7. Unity of instruction and communist upbringing; the cooperation of school, family and society in the upbringing of children and youth;
8. Connection of instruction and upbringing of the rising generation with life, with practical communist construction;
9. The scientific character of education; its constant perfection on the basis of the most recent achievements of science, technology, and culture;
10. The humanistic and high moral nature of education and upbringing;
11. The joint instruction of persons of both sexes;
12. The secular nature of education, excluding the influence of religion.

Article 5. System of Public Education in the U.S.S.R.

The system of public education in the U.S.S.R. includes:
Preschool upbringing;
general [elementary-] secondary education;
out-of-school education;
vocational-technical education;
secondary specialized education;
higher education.

Article 8. Supervision of Public Education in the U.S.S.R.

Supervision of public education in the U.S.S.R. is implemented by higher organs of state power and the organs of state administration of the U.S.S.R., union and autonomous republics, and also by local councils of workers deputies and their executive committees [i.e., by national, state and local government], in accordance with the constitution of the U.S.S.R. and the constitution of the union and autonomous republics.

The organs of state administration of public education in the U.S.S.R., in accordance with the regulations concerning them, confirmed by the U.S.S.R. Council of Ministers, supervise general secondary, vocational-technical, secondary specialized, and higher education, as a rule, through their systems of union-republic ministries and departments, administer the educational institutions directly subordinate to them, and also develop general regulations for instructional upbringing, methodological, and scientific work obligatory for educational institutions, independent of their departmental subordination, and exercise control over their activity . . . .

Article 10. Supervision of Educational Institutions

Supervision of educational institutions is carried out by the principal, director, or rector of the corresponding educational institution who is guided in his work by the pedagogical, collective, and social organizations . . . .

Article 12. Self-Education of Citizens

With the aims of promoting self-education and raising the cultural level of citizens, peoples' universities, lectures, courses, schools of communist labor, and other social forms of disseminating political and scientific knowledge are organized . . . .

Section II. PRESCHOOL UPBRINGING

Article 13. Children's Preschool Institutions

With the aims of creating more favorable conditions for the up-

bringing of children of preschool age and providing the necessary assistance to the family, nurseries, kindergartens, nursery-kindergartens for general and specialized purposes and other children's preschool institutions have been established.

Enrollment of children in preschool institutions is carried out according to the wishes of the parents or guardians.

Article 14. Tasks of Preschool Upbringing

Children's preschool institutions, in close cooperation with the family, accomplish all-round harmonious development and upbringing of children, preserve and strengthen their health, provide them with elementary practical skills and love for labor, are concerned about their esthetic upbringing, prepare children for instruction in school, and educate them in the spirit of respect for elders and love for the socialist homeland and their native region.

Article 15. Organization of Children's Preschool Institutions

Children's preschool institutions are organized by executive committees of district, urban, rural and settlement councils of workers deputies [local government agencies], and also, with their permission, by state enterprises and organizations, collective farms, cooperatives, and other social organizations.

Article 16. Pedagogical Supervision of Children's Preschool Institutions and Their Medical Service

Pedagogical supervision and provision of pedagogical workers of children's preschool institutions, independent of their departmental subordination, is carried out by the U.S.S.R. Ministry of Education, the ministries of education (public education) of union and autonomous republics, and their local organs.

Medical and prophylactic work with children and provision of medical workers for children's preschool institutions is carried out by public health organs.

Section III. [ELEMENTARY-] SECONDARY EDUCATION

Article 17. Universal [Elementary-] Secondary Education

. . . Universal [elementary-] secondary education is carried out in [elementary-] secondary general education schools, in secondary vocational-technical schools, and secondary specialized educational institutions.

Section IV. GENERAL [ELEMENTARY-] SECONDARY EDUCATION

Article 18. [Elementary-] Secondary General Education Schools

The [elementary-] secondary general education school (the basic form for receiving general [elementary-] secondary education) is a unified, labor and polytechnical school for the instruction and upbringing of children and young people . . .

Instruction and upbringing of pupils in secondary general education schools is accomplished in the process of school studies, out-of-class and out-of-school activities, and socially useful labor. The basic form of organization of educational work in the school is the lesson . . .

Article 19. Chief Tasks of the [Elementary-] Secondary General Educational School

The chief tasks of the [elementary-] secondary general education school are:

Implementation of general [elementary-] secondary education for children and youth, answering contemporary demands of social and scientific-technical progress, providing students with deep and sound knowledge of the fundamentals of the sciences; educating them to strive for continuous improvement of their knowledge, and in the ability to fulfill it independently and to apply it in practice;

Formation in the young generation of a Marxist-Leninist world view, educating them in socialist internationalism, Soviet patriotism, and readiness to defend the socialist homeland . . .

Article 20. Language of Instruction in the General Education School

Pupils in the general education school are given the opportunity to be instructed in their native language or the language of another people of the U.S.S.R. Parents or guardians have the right to select for the children, according to their wishes, the school with the appropriate language of instruction. In addition to the language in which the teaching is conducted, pupils if they wish may study the language of another people of the U.S.S.R.

Article 21. Ensuring Availability of the General Education School to Students

The territorial availability of school for pupils is ensured by the optimum distribution of schools in the districts, free transportation

of pupils to and from school in a rural locality, and well-built boarding facilities at the schools.

Depending on local conditions, primary schools are established separately, consisting of grades 1–3 (4), eight-year schools consisting of grades 1–8, and secondary schools consisting of grades 1–10 (11), while preserving the unity and continuity of all levels of general secondary education.

Article 22. Preparatory Classes

With the aim of preparing school children who will be instructed in a non-native language, and children who have not attended children's preschool institutions, preparatory classes are organized in schools, if necessary.

The organization of preparatory classes is carried out according to the procedure established by the U.S.S.R. Council of Ministers.

Article 23. General Education Schools and Groups with an Extended Day; Boarding Schools

With a view to broadening social upbringing, creating more favorable conditions for the all-round development of students, and rendering aid to the family in their upbringing, on the existing educational-material bases, general education schools with an extended day or groups with an extended day are established.

With the same objectives for children and youth lacking the necessary conditions for upbringing in the family, boarding schools are established.

Article 24. Children's Homes

For children and adolescents who have been deprived of parental care, children's homes are organized, assuring the maintenance of children and adolescents and their instruction and upbringing.

Article 25. Special General Education Schools and Boarding Schools

For children and adolescents needing long-term medical treatment, general education health sanatoriums and forest schools are organized, and academic activities in hospitals, sanatoriums, and at home are also provided.

For children and adolescents having defects in physical or mental development preventing their instruction in an ordinary general education school, and also needing special conditions of upbringing, general education schools and boarding schools are organized, assuring their instruction and upbringing, providing treatment, and preparing them for socially useful labor.

Article 26. Secondary General Education Schools for Working Youth

For persons working in various branches of the national economy, and not having a secondary education, secondary general education evening (shift) schools and correspondence schools are organized.

Enterprises, institutions and organizations participate in bringing working youth into the evening schools and create the conditions necessary for combining work with instruction and for normal work of these schools and studies of pupils.

Article 27. Certificate of Eight-Year Education and Certificate of Secondary Education

Persons who have completed eight grades are granted a certificate (*svidetel'stvo*) of eight-year education, giving them the right to enroll in the ninth grade of a secondary general education school, and vocational-technical and secondary specialized educational institutions.

Persons who have completed a secondary general education school are granted a certificate (*attestat*) of secondary education.

Persons who have completed a secondary general education school with production training are granted a certificate (*attestat*) of secondary education.

Persons who have completed a secondary general education school with production training are granted a certificate (*attestat*) of secondary education and a certificate (*svidetel'stvo*) of having acquired a specialty, with the rank conferred by the qualification commission.

Section V. OUT-OF-SCHOOL UPBRINGING

Article 29. Out-of-School Institutions

With the goals of all-round development of abilities and inclinations of pupils—educating them in social activity, interest in labor, science, technology, art, sports, and military affairs, as well as for organizing cultural relaxation and strengthening their health—state enterprises, institutions and organizations, collective farms, cooperatives, trade unions, communist youth and other social organizations create pioneer palaces and houses [organizations for extracurricular activity of youth, roughly comparable to Y.M.C.A.'s], stations for young engineers, young naturalists, and young tourists; children's libraries; sport, art and musical schools; pioneer camps; and other out-of-school institutions.

Section VI. VOCATIONAL-TECHNICAL EDUCATION

Article 30. Vocational-Technical Educational Institutions

Vocational-technical educational institutions are the basic school of vocational-technical education for youth and for formation of a worthy addition to the working class.

Vocational-technical educational institutions (vocational schools) accept U.S.S.R. citizens who have completed an eight-year or secondary general education school . . .

Article 31. The Main Tasks of Vocational-Technical Educational Institutions

The main tasks of vocational-technical educational institutions are:

Training for the national economy of well-rounded, technically educated and cultured young qualified workers who possess vocational skills answering the demands of current production, scientific-technical progress, and the prospects for their development;

Implementation in secondary vocational-technical schools of vocational and general secondary education of youth;

Giving pupils a Marxist-Leninist world view, educating them in high moral qualities, socialist internationalism, soviet patriotism, a communist attitude toward work and social property . . .

Article 33. Training and Raising Qualifications of Workers in Industry

For youth entering production after completion of general education school, and for persons working in the national economy and wishing to receive a new vocation or to increase their qualifications, evening (shift) vocational-technical schools, also courses, study course combines, and other forms of training and increasing qualifications directly in industry, are organized . . .

Article 34. Conferral of Qualification, Granting of Certificate and Diploma

Persons who have completed vocational-technical educational institutions are conferred the appropriate qualification (rank, class, category) in a profession and are issued a certificate (*attestat*) in the established form . . .

Persons who have completed secondary vocational-technical schools are granted a diploma (*diplom*) indicating vocational qualification and receipt of a secondary education . . .

Section VII. SECONDARY SPECIALIZED EDUCATION

Article 35. Secondary Specialized Educational Institutions

Secondary specialized education is carried out in technical schools and other educational institutions considered, according to established procedure, secondary specialized educational institutions.

In secondary specialized educational institutions there may be day, evening, and correspondence instruction.

Instruction in secondary specialized educational institutions without interruption of production [while working full time] is a form of acquiring a specialty and raising qualifications for persons working in various branches of the national economy . . .

Article 36. The Main Tasks of Secondary Specialized Educational Institutions

The main tasks of secondary specialized educational institutions are:

Training of qualified specialists with secondary specialized and general secondary education, having the necessary theoretical knowledge and practical skills in a specialty, educated in the ideas of Marxism-Leninism and possessing the skills for organization of mass political and educational work;

Constant perfection of the quality of training of specialists, according to the demands of modern production, science, technology, and culture, and the prospects for their development . . .

Article 37. The Right to Enroll in Secondary Specialized Educational Institutions

The right to enroll in secondary specialized educational institutions is enjoyed by citizens of the U.S.S.R. having eight-year or secondary education . . .

Article 38. Practical Training of Pupils of Secondary Specialized Educational Institutions

Practical training of pupils of secondary specialized educational institutions is a constituent part of the instructional and upbringing process, as a result of which pupils acquire the skills of working as a specialist and, in technical and agricultural specialties, in addition, receive qualification in one of the worker's vocations . . .

Article 39. Awarding of Qualification and Granting of a Diploma

Persons who have completed studies in secondary specialized educa-

tional institutions are awarded qualification in the appropriate specialty and granted a diploma (*diplom*) and badge of the established form . . .

Section VIII. HIGHER EDUCATION

Article 40. Higher Educational Institutions

Higher education is carried out in universities, institutes, academies and other educational institutions, according to established procedures, which are considered higher educational institutions.

In higher educational institutions there may be day, evening, and correspondence instruction.

Instruction in higher educational institutions without interruption of [industrial] production [while working full time] is a form of qualifying for a specialty and raising qualifications for persons working in various branches of the national economy . . .

Article 41. The Main Tasks of Higher Educational Institutions

The main tasks of higher educational institutions are:

Preparation of highly qualified specialists who have mastered Marxist-Leninist theory, a sound theoretical knowledge, and practical skills in a specialty and in organization of mass-political and upbringing work;

Educating the students in high moral qualities, communist consciousness, culture, socialist internationalism, soviet patriotism and readiness to defend the socialist homeland; and physical training of students;

Constant perfection of the quality of preparation of specialists, taking into account the demands of modern production, science, technology, and culture, and the prospects for their development;

Performing scientific-research work, which promotes a rise in the quality of preparation of specialists and scientific-technical progress;

Creation of textbooks and instructional aids;

Preparation of scientific-pedagogical personnel;

Raising the qualifications of the teaching staff of higher and secondary specialized educational institutions, and also of specialists with higher education, engaged in the corresponding branches of the national economy.

Article 42. The Right to Enroll in Higher Educational Institutions

The right to enroll in higher educational institutions is enjoyed by citizens of the U.S.S.R. having a secondary education. Admission to

higher educational institutions is carried out in accordance with rules confirmed by the U.S.S.R. Ministry of Higher and Secondary Specialized Education.

Article 43. Practical Training of Students and Probationary Training of Graduates of Higher Educational Institutions

Practical training of students of higher educational institutions is a constituent part of the educational process . . .

For the perfection of practical skills, graduates of higher educational institutions go on to probationary work in their specialty under the supervision of the administration of the responsible enterprise, institution, or organization, and under the control of the higher educational institutions.

Article 44. Awarding of Qualification and Granting of a Diploma

Persons who have completed studies in higher educational institutions are awarded a qualification in accordance with the specialty acquired, and are granted a diploma (*diplom*) and a badge of the established form.

Section IX. THE RIGHTS AND DUTIES OF PUPILS AND STUDENTS

Article 46. The Rights of Pupils and Students

Pupils and students have the right to use, free of charge, laboratories, offices, auditoriums, reading rooms, libraries, and other educational and auxiliary-educational institutions, and also sports facilities, buildings, sports equipment, and other equipment of educational institutions.

Pupils and students, in accordance with established legislative procedure, are provided with stipends, allowances, dormitories, boarding facilities and medical aid in educational institutions, right to reduced-rate or free transportation and other forms of material aid.

Pupils and students instructed without interruption of production [while working full time] in accordance with legislation, have the right to additional leave from their place of work, a shortened work week, and other privileges.

Persons who have completed studies in vocational-technical, secondary specialized, and higher educational institutions are guaranteed work according to their specialty and qualification . . .

Article 47. The Duties of Pupils and Students

Pupils and students are obliged to acquire knowledge and practical skills systematically and thoroughly, to attend educational activities, to complete within the allotted time all their assignments which have been stipulated by the curriculums and syllabi, to raise their ideological and cultural level, to participate in socially useful labor and self-service, and to observe the rules of internal order of the educational institution.

Section X. TRAINING PEDAGOGICAL PERSONNEL . . . PROFESSIONAL RIGHTS AND DUTIES OF PUBLIC EDUCATION WORKERS

Article 48. Training of Pedagogical Personnel for Educational Institutions

Training of pedagogical personnel for educational institutions is carried out in universities, institutes and other higher educational institutions, and, for certain specialties, in secondary specialized educational institutions.

Article 49. Training Scientific-Pedagogical and Scientific Personnel

The basic form of training scientific-pedagogical and scientific personnel is the *aspirantura* [graduate training], at higher educational institutions and scientific-research organizations.

Citizens of the U.S.S.R. having a higher education are accepted into the *aspirantura* . . .

Article 52. Raising the Qualifications of Education Workers

Raising the qualifications of education workers is carried out in higher educational institutions, advanced teacher training institutes, institutes for raising qualifications, and scientific research institutions, and also in courses for raising qualifications . . .

Article 54. Privileges and Advantages

In accordance with legislation, public education workers enjoy extended leaves, paid for at the expense of the state; free living accommodations with heat and light in a rural locality; advantages in the field of pension insurance; and other privileges and advantages.

Section XI. THE RIGHTS AND DUTIES OF PARENTS AND GUARDIANS IN UPBRINGING AND INSTRUCTION

Article 56. Rights of Parents and Guardians

Parents and guardians have the right:

To enroll children for upbringing and instruction in children's preschool institutions and general education schools according to the place of residence, and also in vocational-technical or secondary specialized educational institutions;

To take part in discussions of problems of instruction and upbringing of children, and in doing out-of-class, out-of-school, and health work in institutions where their children are being trained and educated;

To elect and be elected to parents' committees (councils) at schools and other educational institutions.

Article 57. Duties of Parents and Guardians

Parents and guardians are obligated:

To rear children in the spirit of high communist morality and concern for socialist property, to impart work habits to them, and to prepare them for socially useful activity, to care for their physical development and to strengthen the health of their children;

To send children to school upon their attaining school age, to ensure the pupils' regular attendance at educational institutions, not permitting their absence from classes without valid reasons . . .

Section XII. INSTRUCTIONAL-MATERIAL BASE OF INSTITUTIONS OF PUBLIC EDUCATION

Article 61. Development of the Instructional-Material Base [Building and Equipment] of Public Education Institutions

Development of the instructional-material base of public education institutions is carried out by means of funds from the state budget, and also by the capital investments stipulated in the national economic plan. Funds for these purposes may also be received from enterprises, collective farms, cooperatives, and other organizations with their agreement . . .

Article 62. Participation of Enterprises, Institutions, and Organizations in Strengthening the Instructional-Material Base of Educational Institutions

State enterprises, institutions and organizations, collective farms, cooperatives, trade unions, communist youth and other social organizations, according to established procedures, participate in strengthening the instructional-material base of educational institutions.

3. Statistical Indicators

The official Soviet data presented in the tables on pages 36–48 are useful as indicators of orders of magnitude, rates of development, and areas of emphasis in the education system of the U.S.S.R. As has been pointed out by this and other analysts, there are considerable pitfalls in reliance on any specific tabular series of reported Soviet data. Details concerning tabulation procedures are sparse and data collection is often not rigorous; significant gaps appear in many statistical series, and generalized categories obscure key data; data are reported without definitions or with unreported changing definitions; and significant data are consistently unreported or given only in percentages.[1]

Given the compounding of problems, comparisons with other countries' education statistics are even more hazardous. Nevertheless, in this chapter U.S. education statistics are frequently juxtaposed with the Soviet education statistics in order to provide for U.S. readers a clearer sense of the significance and magnitude of the latter. Literal, direct comparisons, however, should not be made between the education of the two countries on the basis of such parallel statistics, because substantial differences exist not only in systems and terminology but also in the political, economic, and social contexts of the two systems.

Education at All Levels

Soviet statistics of education at all levels include not only what we would consider traditional forms of schooling—schools of general education at the elementary and secondary levels and vocational, technical, and higher educational institutions—but also kindergartens for children 3 through 6, large correspondence-extension programs (particularly in secondary specialized and higher education), factory-linked training programs, and boarding schools for the disadvantaged and the handicapped.

[1] For earlier detailed discussions of problems of Soviet statistics, see the author's "Problems in Evaluating Soviet Education" (*Comparative Education Review;* October 1964), Nicholas De Witt's standard work *Education and Professional Employment in the U.S.S.R.* (National Science Foundation, U.S. Government Printing Office, 1961), and Murray Feshbach's first of two volumes on the subject, *The Soviet Statistical System: Labor Force Recordkeeping and Reporting.* (Bureau of the Census, U.S. Government Printing Office, 1960.)

Statistics on general education and teachers likewise include not only the regular school system, but also the general education evening and alternating shift systems and correspondence study for working youth and adults. These evening and shift schools are alternatively called "schools for working youth" and "schools for rural youth."

Enrollments

In 1970, the total population of the U.S.S.R. was 241.7 million, as compared with a total population of 208 million in the United States. Table 1 shows that total Soviet education enrollments increased from the 40 millions in the early 1960's to over 60 million in the early 1970's, reflecting population growth and longer retention of youth in schools. As in the 1960's, although the U.S.S.R. had a larger population than the United States, total numbers in schools were roughly comparable in the two countries in the early 1970's: the 1972–73 totals for the U.S.S.R. were 60.8 million, while the estimated total elementary, secondary, and higher education enrollments in the United States in fall 1972 were 59.3 million.[2] The U.S. figures include kindergarten enrollments; the Soviet figures do not.

Soviet higher education enrollments almost doubled from 1960–61 to the early 1970's, with the rate of growth slowing markedly in the 1970's (table 1). Higher education enrollments were 4.6 million in 1972–73 in the U.S.S.R. and 8.3 million in fall 1972 in the United States.[3]

Literacy

The statistics of both countries indicated virtually complete literacy: 99 percent literacy of the population 14 years of age and over in the United States as of November 1969,[4] and 99.4 percent literacy of the population aged 9 to 49 in the U.S.S.R. as of January 1970.[5]

Educational Level

The U.S.S.R. continued to show steady progress in the educational level of the general population, although it also remained behind the United States in the early 1970's. Table 2 gives data concerning the number of people whose highest educational level is from "incom-

[2] W. Vance Grant and C. George Lind. *Digest of Educational Statistics, 1973 Edition*. Washington, D.C.: U.S. Government Printing Office, 1974. P. 6.

[3] Ibid.

[4] Ibid., p. 17.

[5] Central Statistical Administration attached to the U.S.S.R. Council of Ministers. *Narodnoe khoziastvo SSSR—1922–1972, statisticheskii ezhegodnik* (National Economy of the U.S.S.R. in 1972, Statistical Yearbook). Moscow: "Statistics" Publishers, 1973. P. 35. Volumes in this series will hereafter be referred to simply as *Narodnoe khoziastvo* . . . with the appropriate date from the title.

plete secondary" education (7 or 8 years of education) to those who have completed higher education. In the United States, the percentage of adults (persons at least 25 years old) with 4 or more years of college totaled 11.0 percent in 1970;[6] in the U.S.S.R., the percentage of the working population with a higher education was 6.5 percent in 1970 and 7.7 percent in 1973. In the United States, the percentage of adults who had completed 8 years or more of education was 84.6 percent in 1970;[7] in the U.S.S.R. the percentage of the working population who had approximately the same years of education was about 65.3 percent in 1970 and 71.8 percent in 1973. (Included in the Soviet percentage are adults who have had the compulsory 7 or 8 years of education.)

Preschool Education

Nurseries provide facilities for children under the age of 3, kindergarten for children from 3 to 7, when children enter first grade, and nursery-kindergarten for children of all ages under 7. Soviet preschool institution statistics generally combine enrollments in nurseries, kindergartens, and nursery-kindergartens. Table 3 shows combined enrollments for the latter two categories of about 8.9 million in 1972, of which 6.9 million were urban children and only 2.0 million rural.[8]

In 1970, of 9.3 million children in preschool institutions, about 1.2 million were in nurseries and 8.1 million were in kindergartens and nursery-kindergartens. Of the 8.1 million, about 1.5 million were of nursery-school age in the nursery-kindergartens.[9] Approximate totals of nursery-school age children in nurseries or nursery-kindergartens were 2.6 million, and of kindergarten-age children in kindergartens were 6.7 million. These totals are estimated to be respectively 22 percent of the nursery-age population (of about 12.2 million, 2 years and under), and 38 percent of the kindergarten-age population (of about 17.5 million, ages 3 through 6).[10]

In the United States in the 1970–71 school year, 2.6 million children were enrolled in kindergarten, a figure not comparable to the Soviet 6.7 million enrollment, which covers a much larger age group (3 through 6).[11]

[6] W. Vance Grant and C. George Lind, op. cit., p. 14.

[7] Ibid., p. 16.

[8] *Narodnoe khoziastvo v 1972 g.*, p. 635.

[9] *Narodnoe khoziastvo v 1970 g*, 1971, p. 635.

[10] Based on a U.S. Bureau of the Census estimate of population by age.

[11] Kenneth A. Simon and W. Vance Grant. *Digest of Educational Statistics, 1971 Edition*. Washington, D.C.: U.S. Government Printing Office, 1971. P. 25.

General Education

Regular Schools

In the 1972–73 school year, 49.3 million pupils were enrolled in grades 1 to 10 or 11 of 181,000 schools of general education of all types (table 4). This meant an average of about 270 pupils per school, in school buildings generally smaller than suggested by the statistics, since many were on double-shifts. Total teachers for these schools were reported to be about 2.7 million, or one teacher per 18 pupils, but these figures may include part-time teachers and supporting staff.

Other Schools

Along with pupils in regular schools, the 49.3 million pupils in 1972–73 included 6.8 million in schools and groups with a prolonged day and in boarding schools providing a general education; these enrollments increased from about 2.4 million a decade earlier.[12] Prolonged-day and boarding schools provide pupils of working and rural parents with school facilities, including extracurricular activities, recreation, and board, beyond the regular school day schedules.

Upper Secondary Level

Enrollments in upper secondary general education, grades 9 to 10 (or 9–11 in some Republics), tripled in the decade from 1960–61 to 1970–71, and by 1972–73 had reached about 8.9 million (table 4). In addition 4.4 million were enrolled in secondary specialized (i.e., vocational-technical) education (table 1), making a total of about 13.3 million. U.S. school enrollments for grades 9 to 12 were 15.3 million in the fall of 1972.[13]

Using 1970 population data and 1970–71 enrollment estimates, 83 percent of the 15 to 16 age group or 57 percent of the 15 to 17 age group were in the upper grades of schools of general education of all types in the U.S.S.R. (The real percentages are probably slightly lower because of some enrollments of other age groups.) An additional percentage of these age groups, which cannot be estimated because of the substantial spread of age groups enrolled, were in secondary specialized schools.

In the United States in 1970, 98 percent of the 14- and 15-year olds and 90 percent of the 16- and 17-year olds—the age group for the upper grades 9 through 12—were enrolled in school.[14]

Teachers

The total number of school teachers in the U.S.S.R. is roughly comparable to the number in the United States. In the 1972–73 school

[12] *Narodnoe Khoziastvo v 1972 g.*, p. 628.
[13] W. Vance Grant and C. George Lind, op cit., p. 33.
[14] Ibid., p. 8.

year, there were about 2½ million teachers in Soviet elementary-secondary schools and about 2⅓ million in schools in the United States.[15]

Secondary Specialized and Higher Education

Statistics on secondary specialized education and higher education are generally grouped together and discussed together in Soviet surveys of education. Both are concerned with training skilled personnel, whether at the technician or specialist level, to meet national plans for fulfilling manpower needs for the economy. Both are under the supervision of a ministry separate from the Ministry of Education —the Ministry of Higher and Secondary Specialized Education. This ministry provides secondary specialized education training and general education through the complete secondary education level in separate technicums (*tekhnikumi*) and other schools in industrial, construction, transportation and communication, agricultural, economics, health, education, and cultural fields. The terminology "specialized education" is not to be confused with "special education" (education for the handicapped), which the Soviets call "defectology." The ministry also supervises higher education, which is pursued in universities and specialized institutes, and provides professionals in the sciences, engineering, agricultural, economic, medical, education, and other fields. There is no nonspecialist liberal arts education.

Ratios Between Levels

The ratio of enrollments in secondary specialized institutions to those in higher education, roughly 1:1, for the 1972–73 school year, was not supportive of the Government's goal of producing 2 to 3 technical support personnel for each professional (table 5). Graduation ratios, about 1.6:1 in 1972, were better though inadequate. The ratio may be improved somewhat in the late 1970's through the planned upgrading of (lower) vocational schools by developing complete secondary general education studies within them. Assuming a slight increase in the 1973 to 1975 period, graduation totals from secondary specialized and higher education in 1971 and 1972 were consistent with the national 5-year-plan goal of training about 9 million specialists with a higher or specialized secondary education in the 1971 to 1975 period.

Specialties

Enrollments in secondary specialized schools were well over 4 million in the early 1970's (over twice that of a decade earlier), and

[15] Ibid., p. 11.

approached 4½ million in 1972–73 (table 6). Heaviest enrollments, half a million or more each, were in economics (e.g., clerks and bookkeepers) in agriculture and forestry, and in machine-building and instrument-making specialties. Other major groups of specialties included health and physical culture, e.g., medical technicians, doctors' assistants, and physical therapists (over 430,000); and education specialties, including kindergarten and primary school teachers (about 350,000).

Heaviest enrollments in higher education specialties in 1972–73 were in the same three categories as in secondary specialized education (with economics still first in enrollment size, but with machine building instead of agriculture in second place). Higher education enrollments for these top three specialties were (1) economics—566,000, (2) machine building and instrument making—551,000, and (3) agriculture and forestry—376,000 (table 6).

A somewhat arbitrary alignment of 1971 higher education graduations by field, attempting to correlate reported U.S. and Soviet data, gives graphic evidence of the differences in emphasis in the two systems (table 7).

The U.S.S.R. system of higher education produces many more engineers, as Soviet sources frequently point out. The 1971 statistics show more than 4 times as many Soviet engineering and agricultural graduates as U.S. graduates in each field. In fact, this is one aspect of the dramatic difference in emphasis, for the United States in 1971 produced 7 times as many graduates in what the Soviet data refer to as "specialties in universities," or graduates majoring in the social sciences, humanities, and physical sciences.

To refine this latter data, even if U.S. graduations were excluded in area studies, foreign languages, letters, and social sciences, then the number of graduations in the physical and biological sciences, mathematics, and psychology alone would be more than twice as high (119,800) as graduations in *all* specialties in Soviet universities (55,600).

Higher Education Enrollments

Using 1970 data and estimates, about 17 percent of the 18 to 24 age group, or 26 percent of the 20 to 24 age group, were enrolled in all types (daytime, evening, and correspondence) of higher education in the U.S.S.R. About 10 percent of the 18 to 24 age group, or 16 percent of the 20 to 24 age group in the U.S.S.R., were in regular, full-time day programs.[16]

Evening courses and particularly correspondence-extension education are major components of the Soviet higher education system

[16] These estimated percentages are based on Soviet-reported enrollment data and U.S.S.R. population by age estimated by the U.S. Bureau of the Census.

(table 6). A recent analysis comparing enrollments in these courses with those in regular day programs identifies three stages:

1. A continuous progression [i.e., increase in total enrollments] from 1950 to 1956, appreciably more rapid in the case of evening and correspondence course enrollments, since their percentage of total enrollments in higher education was to catch up with, and exceed, that of day course enrollments [by the 1960–61 school year].
2. A leveling-off of enrollments in day courses from 1956 to 1960, as compared with the other forms of education, which continued to develop until 1965.
3. A rapid recovery in the rate of day course enrollments from 1966 on, coinciding with a slow decline in [enrollments in] the other forms of education.[17]

Another analysis confirms this trend in the 1970's, reporting the scheduled increase in higher education day enrollments from about 49 percent of total enrollments in 1970 to 60 percent in 1975, as well as a comparable percentage increase in day enrollments in specialized secondary education by 1975.[18]

The slowly declining enrollments in evening and correspondence courses and increasing enrollments in day programs in recent years reflect Soviet policy decisions based on various concerns about the part-time programs, including the quality of programs, the proportion of dropouts, and the completeness of graduates' mastery of the theoretical aspects of their specialties.

Nationality Groups

Statistics on enrollments in secondary specialized and higher education by nationality group in table 8 provide, in conjunction with statistics on nationality groups in the U.S.S.R., insights into the proportion of students to the general population of a given nationality group as compared with that of other groups and of the nation as a whole.

The Jewish nationality group, to select one of particular interest, has traditionally had one of the highest proportions of students in higher education to its general population. In the 1972–73 school year, 88,500 Jewish students were in higher educational institutions out of a reported Jewish population of 2,151,000 (1970 census); thus there were about 4 students in higher education for every 100 persons in the Jewish population. The national average is about 2 students per 100 population. The total enrollment of Jewish students, while

[17] Tamara Revenko, *L'enseignement Supérieur en Union Soviétique* (Higher Education in the Soviet Union). Organization for Economic Cooperation and Development. Paris, 1973. P. 210. The volume contains an English summary.

[18] David W. Carey. "Developments in Soviet Education," *Soviet Economic Prospects for the Seventies*. Washington, D.C.: Joint Committee Print, 93d Congress, 1st Session, A Compendium of Papers Submitted to the Joint Economic Committee, Congress of the United States, U.S. Government Printing Office, 1973. Pp. 608–09.

representing an increase from 79,300 reported for the 1962–63 school year, represents very little growth since the 1930's[19] and is a nominal increase even in the past decade compared to the substantial growth of enrollments of other nationalities.

Table 8 shows that of the 23 nationality groups with a population of a million or more in the 1970 census only the Jews and the Poles had a reported declining population since the last national census in 1959. Soviet statistics report 117,000 fewer Jews in 1970 than in 1959.

The number of Jewish students in technical institutes and other secondary specialized institutions declined from about 47,000 in the early 1960's to 37,000 in 1972–73, a decline of 10,000, or 21 percent. Of the 23 nationality groups of a million or higher population that these statistics reported, only the Jewish and Estonian nationalities had declining enrollments in secondary specialized education as compared with a decade earlier. (The Estonian decline was 900 students.) The number of Jewish students was slightly below the national average in relation to percentage of the population.

Women

Women maintained equality in total enrollments in both secondary specialized (53 percent) and higher education (50 percent) in 1972–73 (table 9). The clustering of women remained the same as in previous years, with predominance in the education, health, and economic fields and underrepresentation in the engineering and agriculture specialties.

Providing more insight perhaps into their level of attainment are statistics on women teachers (table 10). While comprising 79 percent of classroom teachers and 75 percent of directors of elementary schools, women comprise only 29 percent of 8-year school directors and only 25 percent of secondary school directors. A similar disparity in leadership roles applies in other fields in which women predominate.

One can cite similar statistics, it should be added, for women in the teaching profession in the United States. As Charles Saunders points out, while citing the U.S. education system as one of the best and most accessible in the world:

> We must also reexamine the employment situation in our entire educational system. According to the National Education Association, the public schools employed almost 2½ million full-time professional people last year, and women comprised over 60 percent of that total. But women held only 13½ percent of the posi-

[19] Nicholas de Witt estimates a decrease of Jewish students in day and evening courses from 74,900 in 1935 to 45,800 in 1960, as quoted in *Modernization and Diversity in Soviet Education* by Jaan Pennar, Ivan I. Bakalo, and George Z. F. Bereday, pp. 332–33 (New York: Praeger, 1971). The volume cites restrictive admissions quotas more than war losses as accounting for the decline.

tions as principals, only 11½ percent of all positions as assistant, associate, or deputy superintendents, and only one-tenth of one percent of the superintendent positions.[20]

Graduate Training

Unlike higher education diploma training, there is no fixed curriculum for graduate training—the *aspirantura*. The source of teaching and research personnel at higher education and research institutions, the *aspirantura* program is determined by the department in which the student is being trained.

Location and Type of Instruction

A striking aspect of graduate training in the U.S.S.R. is that only about 57 or 58 percent of it takes place in higher education institutions (table 11). Over 40 percent of graduate training occurs in "scientific organizations"; i.e., scientific research institutes of various Government ministries, academies of sciences, and their branches throughout the country. Graduate training, therefore, tends to be geared to the current work plans of the research institutes concerned.

While 62 percent of the graduate students in higher educational institutions in 1972 were full-time and 38 percent were part-time, in the scientific organizations only 40 percent were studying full-time and 60 percent were in part-time programs. Presumably most of the part-timers were working as assistants in higher education or scientific research institutions.

Fields of Study

Reported Soviet enrollments of graduate students *(aspirants)* in table 12 provide a breakdown in the physical and social sciences and humanities not available in the combined undergraduate category "specialties in universities" in table 6. Table 13 is an attempted grouping and alignment of enrollments in various graduate fields of study in the U.S. and U.S.S.R.

Because of the relatively small numbers who go on for graduate studies in the U.S.S.R., where specialization begins earlier than in the U.S., and because this generally represents at least their sixth year of higher education, they are correlated in table 13 with the numbers of U.S. students in various fields beyond the first year of graduate study. Total U.S. enrollments for advanced degrees in 1971 for U.S. students beyond the first year were about 300,000—3 times as many as U.S.S.R. graduate students.

[20] *Remarks* (mimeographed) by Charles B. Saunders, Acting Assistant Secretary for Education, U.S. Department of Health, Education, and Welfare, at annual meeting of the National Schools Committee for Economic Education, Inc., Absecon, N.J., Feb. 23, 1974.

Soviet graduate enrollments are by far the heaviest in engineering fields, which comprised about 42 percent of the total in 1971. Relatively strong in the physical sciences and mathematics as compared with other nonengineering categories, U.S.S.R. graduate students in these fields still numbered only half of the U.S. total. In the biological sciences, the number of U.S.S.R. graduate enrollments was less than a third of the U.S. figure.

Sources of Statistics

Statistics on education in the U.S.S.R. are published annually in *Narodnoe khoziastvo v 19 . . . g.* (National Economy of the USSR in 19 . . .) by the Central Statistical Administration attached to the U.S.S.R. Council of Ministers in Moscow. Major sections of this statistical yearbook include "Territory and Population," "Science and Technical Progress," "Industry," "Agriculture," "Transportation and Communication," "Capital Construction," "Growth of Material Well-being of Population" (national income, housing, pensions, etc.), "Trade," "Services," "Public Education and Culture," "Health," "Finance and Credit," and "Territory and Population of Countries of the World." The tables on Soviet education are primarily from the "Public Education and Culture" section of the most recently available *Narodnoe khoziastvo's* but also include selected tables from other sections. Data are also included from other official Soviet statistical handbooks. Textual commentary and analysis include selected data from the tables and also other data.

Besides general summaries that have appeared in various Soviet publications, a series of volumes of statistics has been published on the 1970 Soviet census by the U.S.S.R. Central Statistical Administration. The general title of the series is *Itogi usesoyuznoi perepisi naseleniia 1970 goda* (Results of the All-Union Population Census of 1970). Of the four volumes available thus far, volume III (published in 1972) is most relevant, *Uroven' obrazovaniia naseleniia SSSR* (Level of Education of the Population of the U.S.S.R.). It reports educational attainment by age groups at the national and republic level and by sex down to the local levels.[21]

A more comprehensive volume of education statistics was published by the Central Statistical Administration in 1972, *Narodnoe*

[21] For a recent U.S. source on Soviet population statistics, see "Estimates and Projections of the Population of the U.S.S.R. by Age and Sex: 1950 to 2000" in *International Population Reports Series P–91, No. 23* (U.S. Dept. of Commerce, Washington, D.C.: U.S. Government Printing Office, March 1973). Many of the education tables from Census Volume III and a number of other education statistical series through 1970 and 1971 have been published in English by the International Arts and Sciences Press, in *Soviet Education*, vol. XVI, no. 11–12, September–October 1974.

obrazovanie, nauka i kul'tura v S.S.S.R. (Public Education, Science and Culture in the USSR). It provides detailed data ranging from breakdowns of distribution and educational attainment of teachers to output of vocational-technical schools by types of graduates for specific industries.

4. Summary and Conclusions

In reviewing recent Soviet education legislation and statistics in conjunction with a range of related education materials (policy statements, professional journal articles, etc.), several trends are evident in the early 1970's that will probably continue into the late 1970's:

1. Steady growth of nursery and kindergarten enrollments, which, however, still represent only a minority of the age groups concerned and primarily those in the large urban areas.
2. Increasing enrollments in upper secondary education, approaching in practice the goal of universal, compulsory complete secondary (10-year) education.
3. An increase in the general education component in vocational schools to provide for youth who would otherwise not complete their secondary general education (in order to meet the goal of university secondary education).
4. The continuing large role of schools for technical specialization at the secondary level, to somewhat increase the ratio of support personnel to professional personnel.
5. The continuing focus in higher education on developing specialists to serve the needs of the national economy—economists, agricultural specialists, and various subspecialties of engineers.

Of continuing importance in the primary goals and practices of Soviet education is perpetuation of Communist ideology, which permeates the system in undiminished singlemindedness and militancy.

Among the problems with which the education system is beginning to deal and will probably continue to be concerned throughout the 1970's are the following:

1. Curriculum and textbook revisions and the supply of appropriate and adequate school equipment to reflect modern developments in the sciences and mathematics, the age of the computer, environmental problems, and other concomitants of increasing industrialization.
2. The need to improve the quality of teaching by increasing use of various kinds of refresher courses as well as by more flexible classroom practices combined with traditional teaching methods.
3. A more sober appraisal of the existing, vast correspondence-extension programs at the secondary specialized and higher education levels, with reassertion of the primary importance of regular full-time day programs.
4. The need to broaden the traditionally narrow-gauged training of engineers and other specialists, to improve the quantity and quality of industrial and business administrators, and to supply increasing numbers of specialists in electronics, computers, and other areas of advanced technology.

Table 1. ***All educational levels:*** **Enrollment in schools and training programs of various types: 1960–61 and 1970–71—1972–73** [1]

(In thousands)

Schools and training programs [2]	1960–61	1970–71	1971–72	1972–73
General education schools:				
Primary, incomplete, and complete secondary schools	33,417	45,448	45,245	44,847
Schools for workers and rural youth and schools for adults, incl. correspondence study	2,770	3,925	3,987	4,478
Total	36,187	49,373	49,232	49,325
Trade-technical and factory schools	1,141	2,411	2,422	2,422
Specialized secondary technical schools [3]	2,060	4,388	4,421	4,438
Higher education institutions	2,396	4,581	4,597	4,630
Grand total	41,784	60,753	60,672	60,815

[1] At beginning of school year.

[2] Enrollments in training program for new trades and raising qualifications in factory and other courses (excluding political education) were 10,909, 18,822, 19,547, and 20,076, respectively.

[3] Includes industrial technicums and other specialized secondary schools that provide vocational-technical training.

SOURCE: Adapted from *Narodnoe khoziastvo—1922–1972*, p. 425; and *Narodnoe khoziastvo v 1972 g.*, p. 627.

Table 2. ***All educational levels:*** **Number of persons at each level of educational attainment, and proportion they represent of the population aged 10 years and above: 1959, 1970, and 1973**

Highest educational level	(In millions)			Per 1000 inhabitants aged 10 years and over [1]		
	1959	1970	1973	1959	1970	1973
Complete higher education	3.8	8.3	10.0	23	42	49
Uncompleted higher education	1.7	2.6	2.8	11	13	14
Complete secondary specialized education in technicums and comparable institutions	7.9	13.4	16.1	48	68	78
Complete secondary general education	9.9	23.4	28.0	61	119	135
Incomplete secondary education	35.4	47.3	50.8	218	241	246
Total	58.7	95.0	107.7	361	483	522

[1] U.S.S.R. total population was 208.8 million by the 1959 census and 241.7 million by the 1970 census (136.0 million urban and 105.7 million rural).

SOURCE: Adapted from *Narodnoe khoziastvo—1922–1972*, p. 36; and *Narodnoe khoziastvo v 1972, g.*, p. 38.

Table 3. ***Preschool education:*** **Number of kindergartens and nursery-kindergartens, pupils, and principals and teachers: Selected years, 1950–72** [1]

(In thousands)

Year	Kindergartens and nursery-kindergartens	Pupils	Principals and teachers
1950	25.6	1,168.8	92.6
1960	43.6	3,115.1	243.4
1970	83.1	8,099.7	576.3
1971	86.6	8,463.4	602.9
1972	89.4	8,870.5	636.4

[1] At end of year.

SOURCE: Adapted from *Narodnoe khoziastvo v 1970 g.*, p. 634; and *Narodnoe khoziastvo v 1972 g.*, p. 634.

Table 4. ***General education:*** **Enrollment at selected grades and total number of schools and teachers: 1960–61 and 1970–71—1972–73** [1]

(In thousands)

	1960–61	1970–71	1971–72	1972–73
Pupils:				
Grades 1–3	14,152	15,334	14,643	14,072
Grades 4–8	19,438	26,243	26,444	26,319
(Grade 4)	(4,595)	(5,347)	(5,335)	(4,951)
(Grade 8)	(2,531)	(5,070)	(5,131)	(5,329)
Grades 9–10 (11)	2,597	7,796	8,145	8,934
Total	36,187	49,373	49,232	49,325
Teachers	2,043	2,626	2,640	2,687
Schools	224	190	184	181

[1] At beginning of school year.

SOURCE: Adapted from *Narodnoe khoziastvo—1922-1972*, p. 426; and *Narodnoe khoziastvo v 1972 g.*, p. 628.

Table 5. *Secondary specialized and higher education:* Number of students and schools, by type of school: 1960–61 and 1970–71—1972–73

Schools	1960–61	1970–71	1971–72	1972–73
Secondary Specialized				
Students: (in thousands)				
Day division	1,091	2,558	2,641	2,690
Evening division	370	645	603	571
Correspondence instruction	599	1,185	1,177	1,177
Total	2,060	4,388	4,421	4,438
Schools	3,328	4,223	4,260	4,270
Higher Education				
Students: (in thousands)				
Day division	1,156	2,241	2,309	2,386
Evening division	245	658	647	636
Correspondence instruction	995	1,682	1,641	1,608
Total	2,396	4,581	4,597	4,630
Schools	739	805	811	825

SOURCE: Adapted from *Narodnoe khoziastvo—1922–1972*, p. 420; and *Narodnoe khoziastvo v 1972 g.*, p. 627.

Table 6. *Secondary specialized (SSE) and higher education (HE):* Enrollments by specialty group: 1960–61 and 1970–71 —1972–73

(In thousands)
(no specialty group at the SSE level)

Specialty group	1960–61		1970–71		1971–72		1972–73	
	SSE	HE	SSE	HE	SSE	HE	SSE	HE
Engineering and Agriculture								
Agriculture and forestry	292.4	236.3	601.1	371.9	610.3	369.2	616.6	375.5
Chemical technology	43.5	56.3	68.2	120.2	79.6	114.4	76.7	107.3
Construction	152.0	146.7	362.7	297.3	391.0	311.2	409.8	325.0
Electromachine building and electro-instrument making	45.5	91.5	131.5	309.4	130.3	315.4	132.9	319.7
Geodesy and cartography	6.4	5.9	9.0	8.7	10.4	8.7	11.4	8.9
Geology and prospecting for mineral resources	11.8	21.3	24.8	39.3	24.6	39.1	25.0	38.5
Hydrology and meteorology	6.3	5.2	7.2	8.4	7.0	8.1	7.1	7.9
Machine building and instrument making	348.2	302.8	572.9	557.9	564.7	552.4	553.4	551.3
Metallurgy	27.3	31.5	50.6	55.5	48.5	54.6	48.5	54.5
Mining of mineral resources	42.6	30.2	68.2	57.0	66.7	57.0	64.9	56.2
Power engineering	98.4	74.7	218.5	100.8	217.9	103.3	213.2	106.1
Radiotechnics and communication	71.1	78.3	138.7	154.1	137.2	149.7	136.2	146.6
Technology of consumer goods	59.7	28.8	109.9	54.2	109.1	55.8	108.9	56.6

Technology of food products	66.6	31.3	150.7	72.2	157.5	72.7	160.7	73.3
Timber engineering and technology of wood, cellulose, and paper	28.7	22.9	46.9	31.0	47.3	32.0	47.1	33.2
Transport	112.3	65.6	273.0	133.1	276.4	134.1	280.3	135.8
Other								
Art	54.6	19.9	123.6	39.1	127.1	39.4	129.4	39.6
Economics	261.5	217.7	622.8	538.6	627.7	550.9	629.6	565.6
Education	154.3		340.1		343.6		349.6	
Health and physical culture	176.3	189.2	446.2	329.8	439.6	338.2	432.4	338.4
Law	...	40.3	...	77.0	...	79.2	...	84.8
Specialties in pedagogical and library institutes	...	512.8	...	880.6	...	871.6	...	854.8
Specialties in universities	...	186.9	...	344.5	...	340.5	...	350.6
	2,059.5	2,396.1	4,388.0	4,580.6	4,420.6	4,597.5	4,437.9	4,630.2

SOURCE: Adapted from *Narodnoe khoziastvo v 1970 g.*, pp. 638–9; and *Narodnoe khoziastvo v 1972 g.*, pp. 638–39.

Table 7. *Higher education:* Number of first degrees conferred by field, in the United States and the U.S.S.R.: 1971

(In thousands)

U.S. fields	No. of U.S. Bachelor's degrees	No. of U.S.S.R. diplomas	U.S.S.R. fields
Agriculture and natural resources	12.7	55.2	Agriculture and forestry
Business management	115.5	78.7	Economics
Communications, and computer and information sciences	13.2	21.6	Radiotechnics and communications
Education and library science	177.6	152.6	Specialties in pedagogical and library institutes
Engineering and architecture, and military sciences	56.0	[1] 244.2	Engineering (except radiotechnics and communications)
Fine and applied arts	30.4	6.8	Art
Health professions	[2] 25.2	47.7	Health, physical culture
Home economics	11.2		
Law	[3] 0.5	10.0	Law
Public affairs and services	9.2		
Theology	3.7		
Interdisciplinary	13.8		
Other:		55.6	Specialties in universities
Area studies	2.5		
Biological sciences	35.7		
Foreign languages	19.9		
Letters	73.1		
Mathematics	24.8		
Physical sciences	21.4		
Psychology	37.9		
Social sciences	155.3		
Total	370.6		
Grand Total	839.7	672.4	

[1] This number represents a total from the source (given below) of the groups of specialties from geology to transportation, excluding radiotechnics and agriculture.

[2] Including the later first-professional degrees in medicine and dentistry (which are more comparable with the U.S.S.R. diplomas in health fields), the U.S. health professions total is 37.8 thousand.

[3] Including the later first-professional degree in law (which is more comparable with the U.S.S.R. diploma in the law field), the U.S. law total is 17.9 thousand.

SOURCE: Adapted from *Narodnoe khoziastvo—1922–1972*, p. 442; and from Kenneth A. Simon and W. Vance Grant, *Digest of Educational Statistics, 1972 Edition*. DHEW Publication No. (OE) 73-11103. Washington, D.C.: U.S. Government Printing Office, 1973. P. 80.

Table 8. ***Secondary specialized (SSE) and higher education (HE):*** **Enrollment by major nationality groups: 1962–63 and 1972–73**

(In thousands)

Nationality	Population (1959 census)	Number of students 1962–63		Population (1970 census)	Number of students 1972–73	
		SSE	HE		SSE	HE
Armenian	2,787	28.9	44.6	3,559	64.5	80.0
Azerbaidzhan	2,940	29.1	36.6	4,380	57.1	87.2
Bashkir	989	7.2	8.3	1,240	18.3	15.9
Belorussian	7,913	87.1	85.0	9,052	156.9	133.7
Chuvash	1,470	10.6	11.5	1,694	23.3	17.3
Dagestan Peoples	944	11.5	9.9	1,365	20.7	21.5
Estonian	989	16.0	15.4	1,007	15.1	17.7
Georgian	2,692	26.0	58.5	3,245	46.8	86.4
German	1,620	Data not reported		1,846	Data not reported	
Jewish	2,268	47.2	79.3	2,151	37.1	88.5
Kazakh	3,622	34.3	51.8	5,299	79.6	104.3
Kirgiz	969	7.3	11.9	1,452	16.9	27.3
Latvian	1,400	18.4	19.8	1,430	19.6	22.0
Lithuanian	2,326	38.2	31.8	2,665	57.7	51.8
Moldavian	2,214	12.6	15.9	2,698	32.7	30.3
Mordovian	1,285	5.7	6.2	1,263	16.9	12.0
Polish	1,380	Data not reported		1,168	Data not reported	
Russian	114,114	1,696.1	1,803.8	129,015	2,709.1	2,774.1
Tadzhik	1,397	7.4	13.5	2,136	19.3	29.6
Tatar	4,968	45.8	51.1	5,931	106.3	90.5
Turkmen	1,002	7.8	11.8	1,525	15.0	22.2
Ukrainian	37,253	422.4	426.9	40,753	669.1	618.8
Uzbek	6,015	40.2	70.1	9,195	99.5	150.2
Total	208,827	2,667.7	2,943.7	241,720	4,437.9	4,630.2

SOURCE: Adapted from *Narodnoe khoziastvo—1922–1972*, p. 446; and from *Narodnoe khoziastvo v 1972 g.*, p. 651.

Table 9. ***Secondary specialized (SSE) and higher education (HE):*** **Percent of total enrollment that women represent, by main area of study: 1960–61 and 1970–71—1972–73**

Main area of study	1960–61		1970–71		1971–72		1972–73	
	SSE	HE	SSE	HE	SSE	HE	SSE	HE
Agriculture	38	27	37	30	36	31	36	32
Economics and law	75	49	83	60	83	60	84	60
Education, art, and cinematography	76	63	81	66	81	67	81	68
Health, physical culture, and sport	84	56	87	56	87	56	88	56
Industry, construction, transport, and communications	33	30	40	38	40	38	40	39
All areas	47	43	54	49	53	49	53	50

SOURCE: Adapted from *Narodnoe khoziastvo—1922–1972*, p. 445; and from *Narodnoe khoziastvo v 1972 g.*, p. 650.

Table 10. ***General education day schools:*** **Number of full-time teachers and school directors, by position; and the number and percent that are women: 1971–72** [1]

(At the beginning of the school year)

Position	Total number of full-time teachers (in thousands)	Women teachers	
		Number (in thousands)	Percent
Director of elementary schools	1	1	75
Director of 8-year schools	53	15	29
Director of secondary schools	45	11	25
Deputy director of 8-year schools	40	24	61
Deputy director of secondary schools	105	65	62
Teachers (except for teachers-directors of schools): grades 1–10 (11)	1,856	1,475	79
Teachers of music, singing, drawing (art), drafting, physical education, and labor training	283	92	32
All positions	2,383	1,683	71

[1] At the beginning of the school year. In 1960–61, of a total of 1,884 full-time teachers, 1,312 (70 percent) were women.

SOURCE: Adapted from *Narodnoe khoziaistvo—1922–1972*, p. 429.

Table 11. *Graduate education:* Enrollment by place and type of instruction: 1960, 1970, 1971, and 1972

Type of instruction	1960	1970	1971	1972
Higher education institutions:				
Full-time	13,463	36,299	35,997	35,598
Part-time	6,913	20,610	21,000	21,654
Total	20,406	56,909	56,997	57,252
Scientific organizations:				
Full-time	9,515	18,725	17,842	16,903
Part-time	6,833	23,793	24,469	24,790
Total	16,348	42,518	42,311	41,693
Grand Total	36,754	99,427	99,308	98,945

SOURCE: Adapted from *Narodnoe khoziastvo—1922-1972*, p. 107; and from *Narodnoe khoziastvo v 1972 g.*, p. 140.

Table 12. ***Graduate education:*** **Total enrollment and enrollment in higher education institutions, by field of study: 1960, 1971, and 1972**

Field of study	1960		1971		1972	
	Total number	Number in higher educational institutions	Total number	Number in higher educational institutions	Total number	Number in higher educational institutions
Agriculture and veterinary	2,877	1,077	5,938	2,178	5,809	2,137
Architecture	148	25	469	182	460	183
Art	448	314	578	392	603	412
Biology	1,877	732	5,068	2,028	4,847	1,965
Chemistry	2,402	1,296	5,125	2,858	4,878	2,788
Economics	2,776	1,661	10,321	6,385	10,386	6,449
Geography	402	254	812	471	821	482
Geology, mineralogy	1,313	533	2,371	989	2,286	968
History and philosophy	1,726	1,184	5,549	4,264	5,556	4,288
Law	402	280	923	663	963	704
Medicine and pharmacy	2,585	1,816	4,937	3,624	4,868	3,635
Pedagogy	956	691	2,281	1,447	2,197	1,367
Philology	1,471	1,067	2,740	2,199	2,784	2,218
Physicomathematics	3,435	2,726	11,878	7,639	11,836	7,513
Psychology	.....	.....	332	211	353	222
Technical	13,936	6,720	39,949	21,467	40,263	21,921
Other	.....	.....	37	.....	35	.....
Total	36,754	20,406	99,308	56,997	98,945	57,252

SOURCE: Adapted from *Narodnoe khoziastvo—1922–1972*, p. 108; and from *Narodnoe khoziastvo v 1972 g.*, p. 141.

Table 13. *Graduate education:* Enrollment for advanced degrees[1] by field of study in the United States and the U.S.S.R.: 1971

U.S. field of study	U.S. (beyond first year)	U.S.S.R.	U.S.S.R. field of study
Agriculture and natural resources	5,692	5,938	Agriculture and veterinary
Architecture and environmental design	2,747	469	Architecture
Area studies	1,697	.....	
Biological sciences	19,939	5,068	Biological sciences
Business and management	30,967	.....	
Communications	1,570	.....	
Education and library science	74,587	2,281	Pedagogy
Engineering, computer and information sciences	31,966	42,320	Technical, geology-nineralogy
Fine and applied arts	8,957	578	Art
Geography	.....	812	Geography
Health professions	7,858	4,937	Medicine and pharmacy
Home economics	1,379	.....	
Law	307	923	Law
Letters and foreign languages	29,407	2,740	Philology
Physical and mathematical sciences	34,221	17,003	Physicomathematics, sciences, chemistry
Psychology	11,958	332	Psychology
Public affairs and services	7,788	.....	
Social sciences	32,173	15,870	History, philosophy, economics
Theology	5,391	.....	
Interdisciplinary studies	2,946	37	Other
Total	308,143	99,308	

[1] Both U.S. and Soviet data exclude enrollments for first-professional degrees in medicine and law.

SOURCE: Adapted from *Narodnoe khoziastvo—1922–1972*, p. 108; and from W. Vance Grant and C. George Lind. *Digest of Educational Statistics, 1973 Edition*, loc. cit., p. 80.

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